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Initial crystallization of zinc and zinc-based composite electroplates as a function of current mode

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Abstract

Metallography was used to study the effect of electrolysis conditions on initial stages of the zinc electrocrystallization with and without disperse particles in an electrolyte. The second phase was represented by TiO 2 particles with a dispersity of 0.1-0.2 μm and a concentration of 20 g/l. Periodic current was shown to raise the hardness, wear- and corrosion resistance of composite electroplates as it exerts additional action on the structure of matrix metal. This gives macrohomogeneous compositions of electroplates.